

**What is Claimed is:**

Sub 133  
1. ~~An article of manufacture for polishing a substrate, comprising:~~  
a polishing article comprising a body having at least a partially conductive surface adapted to polish the substrate and a mounting surface.

*See disclosure  
p. 5.*

2. The article of claim 1, wherein the body comprises at least a conductive material having at least a portion of a conductive polymer, conductive filler materials, a polymer composite with conductive materials, a conductive metal, a metal mesh, or combinations thereof.

3. The article of claim 1, wherein the conductive surface has a resistivity of about 10  $\Omega$ -cm or less.

4. The article of claim 2, wherein the polishing article comprises a metal mesh disposed in a conventional polishing material, wherein the metal mesh is connected to a power source and conducts electricity to the substrate surface through the conductive polishing surface.

5. The article of claim 1, wherein the polishing article further comprises a plurality of perforations formed therein.

6. The article of claim 5, further comprising a plurality of grooves disposed in the polishing surface.

7. The article of claim 6, wherein at least a portion of the plurality of grooves intersect with at least a portion of a plurality of perforations disposed in the polishing surface.

8. ~~The article of claim 1, wherein the conductive surface comprises~~  
~~conductive polishing article disposed on a conductive article support.~~

9. The article of claim 8, wherein the conductive article support is connected to a power source and conducts electricity to the substrate surface through the conductive polishing surface.

10. The article of claim 5, wherein the article of manufacture is disposed on a polishing article support comprising a plurality of perforations disposed therein for flow of material therethrough.

11. The article of claim 10, wherein a plurality of perforations in the polishing article are aligned with the plurality of perforations of the polishing article support.

12. The article of claim 5, wherein the polishing article is mounted on an apparatus for processing a substrate, comprising:

a basin;

a permeable disc disposed in the basin, wherein the polishing article is disposed on the permeable disk and wherein at least a portion of the polishing article comprises an electrode;

a counter electrode disposed in the basin between the permeable disc and the bottom of the basin; and

a polishing head adapted to retain the substrate during processing.

13. A polishing article for polishing a substrate, comprising:

a body having a polishing surface adapted to polish the substrate; and

at least one conductive element embedded in the polishing surface, the conductive element having a contact surface that extends beyond a plane defined by the polishing surface.

14. The polishing article of claim 13, wherein the body comprises a dielectric material selected from the group of polyurethane, polycarbonate, polyphenylene sulfide, felt fibers leached with urethane, filled polymers, foamed polymers, and combinations thereof.

15. The polishing article of claim 13, wherein the body has a plurality of apertures formed therethrough.

16. The polishing article of claim 13, further comprising a biasing member disposed between the conductive element and the body, the biasing member adapted to urge the conductive element towards the polishing surface.

17. The polishing article of claim 16, wherein the biasing member comprises a spring, a foam polymer, plastic tubing, an elastomer, or combinations thereof.

18. The polishing article of claim 16, wherein the biasing member is resilient and urges a compliant contact surface of the conductive element to electrically contact the substrate disposed on the polishing surface.

19. The polishing article of claim 16, wherein the conductive element is selected from at least one of the group of conductive tubing, a brush, a spring, a pin, a bar, a roller, a ball, and combinations thereof.

20. The polishing article of claim 16, wherein the biasing member is selected from the group of a spring, a foam polymer, plastic tubing, an elastomer, and combinations thereof, the conductive element is selected from at least one of the group of conductive tubing, a brush, a spring, a pin, a bar, a roller, a ball, and combinations thereof, wherein urges a compliant contact surface of the conductive element to electrically contact the substrate disposed on the polishing surface.

21. The polishing article of claim 15, wherein the polishing article comprises:  
a body having a polishing surface adapted to polish the substrate;  
a plurality of conductive compliant elements embedded in the polishing surface, the conductive compliant elements having a contact surface that extends beyond a plane defined by the polishing surface and is adapted to be urged by the substrate towards the polishing surface; and

a biasing member disposed between the conductive compliant elements and the body

22. The polishing article of claim 13, wherein the conductive member is compliant.

23. The polishing article of claim 13, wherein the contact surface is rounded, cylindrical, spherical or comprised of fibers, loops, fingers, strands, or combinations thereof.

24. The polishing article of claim 13, wherein the conductive element further comprises:

a carrier disposed in a pocket formed in the body; and  
a contact member disposed on the carrier and extending beyond a plane defined by the polishing surface.

25. The polishing article of claim 24, wherein the carrier and contact member are conductive.

26. The polishing article of claim 24, wherein the contact member comprises a plurality of balls, pins, a rod, a spring, or combinations thereof.

27. The polishing article of claim 24, wherein at least one of the carrier and contact member is made of graphite.

28. The polishing article of claim 13, further comprising a connector coupled to the conductive member and adapted to electrically couple the conductive member to a bias power source.

29. A polishing article for polishing a substrate, comprising:  
a body having a polishing surface adapted to polish the substrate;  
at least one conductive element embedded in the polishing surface; and

one or more pockets formed in the polishing surface, wherein the conductive element is disposed in at least one of the pockets.

30. The polishing article of claim 29, wherein the conductive element has a contact surface that extends beyond a plane defined by the polishing surface.

30. The polishing article of claim 29, further comprising a biasing member disposed in the pocket between the conductive element and the body.

31. The polishing article of claim 29, wherein the biasing member is a spring, a foam polymer, plastic tubing, an elastomer, or combinations thereof, and urges a compliant contact surface of the conductive element to electrically contact the substrate disposed on the polishing surface.

33. The polishing article of claim 29, wherein the conductive element is selected from at least one of the group of conductive tubing, a brush, a spring, a pin, a bar, a roller, a ball, or combinations thereof.

34. The polishing article of claim 29, wherein the conductive element further comprises a contact surface that extends beyond a plane defined by the polishing surface.

35. The polishing article of claim 34, wherein the contact surface is rounded, cylindrical, spherical or comprised of fibers, loops, fingers, strands, or combinations thereof.

36. The polishing article of claim 29, wherein the conductive element further comprises:

a carrier disposed in the pocket;

a contact member disposed on the carrier; and

wherein at least a portion of the contact member extends beyond a plane defined by the polishing surface.

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37. ~~The polishing article of claim 36, wherein the carrier and contact member are conductive.~~

38. The polishing article of claim 36, wherein the contact member comprises a plurality of balls, pins, a rod, a spring, or combinations thereof.

39. The polishing article of claim 36, wherein at least one of the carrier and contact member is made of graphite.

40. The polishing article of claim 29, further comprising a connector coupled to the conductive member and adapted to electrically couple the conductive member to a bias power source through or around the body.

41. The polishing article of claim 13, wherein the polishing article is disposed on an apparatus for processing a substrate, comprising:

- a basin;
- a permeable disc disposed in the basin, wherein the polishing article is disposed on the permeable disc;
- a counter electrode disposed in the basin between the permeable disc and the bottom of the basin; and
- ~~a polishing head adapted to retain the substrate during processing.~~

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